

# STORMWATER

---



*The FY 2010-14 Capital Improvement Program continues to address neighborhood stormwater infrastructure including Henderson Basin, Pettigru Street, and several culverts along Richland Creek.*



**BENNETT, MOHAWK, AND CHICK SPRINGS CROSSINGS**

Department:	<u>PUBLIC WORKS</u>	Ranking:	<u>GROUP B</u>
Status of Project:	<u>REVISION</u>	Start/Finish Dates:	<u>JULY 2001</u>   <u>JUN 2010</u>
Strategic Goal:	<u>2, 5</u>	Project Number:	<u>SW3377</u>

**Project Description:**

This project will replace inadequate crossings at the following locations:

1. Bennett Street: Remove existing 10' x 7' culvert and replace with two 8' x 8' box culverts.
2. Mohawk Drive: Remove existing 11' x 7' arch pipe and replace with 24' x 8' concrete span.
3. Chick Springs Road: Construct one 10' x 10' box culvert adjacent to the existing two 10' x 10' box culverts.

**Project Justification (Including Relationship to City Strategic Plan Goals/Objectives):**

There are residential homes that flood due to the undersized crossing at Mohawk Drive, Bennett Street, and Chick Springs Road. Flooding and overtopping on Chick Springs Road during the storm events create a safety hazard and inconvenience the public.

**Method for Estimating Cost:**

Consultant estimate adjusted for inflation.

**Project Status (As of January 1, 2009):**

Design is complete.

PROJECT ITEMS	FUNDING TO-DATE	FY 09/10 COST	FY 10/11 COST	FY 11/12 COST	FY 12/13 COST	FY 13/14 COST	TOTAL PROJECT COST
Planning/Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Site Acquisition Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Improvements	\$1,571,026	\$387,275	\$0	\$0	\$0	\$0	\$1,958,301
Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Management	\$80,850	\$0	\$0	\$0	\$0	\$0	\$80,850
<b>TOTAL PROJECT COST</b>	<b>\$1,651,876</b>	<b>\$387,275</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$2,039,151</b>
PROJECT FUNDING SOURCES (LIST)	FUNDING TO-DATE	FY 09/10 EST. FUNDS	FY 10/11 EST. FUNDS	FY 11/12 EST. FUNDS	FY 12/13 EST. FUNDS	FY 13/14 EST. FUNDS	TOTAL PROJECT FUNDING
Stormwater Revenue Bond - 2001	\$73,026	\$0	\$0	\$0	\$0	\$0	\$73,026
Stormwater Fund	\$1,578,850	\$387,275	\$0	\$0	\$0	\$0	\$1,966,125
<b>TOTAL PROJECT FUNDING</b>	<b>\$1,651,876</b>	<b>\$387,275</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$2,039,151</b>
OPERATIONAL COSTS							
Operating Impact		\$0	\$0	\$0	\$0	\$0	\$0
Cumulative Operating Impact		\$0	\$0	\$0	\$0	\$0	\$0
FTEs Added		0.00	0.00	0.00	0.00	0.00	0.00
Cumulative FTEs Added		0.00	0.00	0.00	0.00	0.00	0.00

## HENDERSON BASIN

Department:	<u>PUBLIC WORKS</u>	Ranking:	<u>GROUP B</u>
Status of Project:	<u>REVISION</u>	Start/Finish Dates:	<u>JULY 2007</u> <u>JUN 2011</u>
Strategic Goal:	<u>2, 5</u>	Project Number:	<u>SW3395</u>

**Project Description:**

This project will replace inadequate culvert crossings at Halidon Road, Parkins Mill Road, Cleveland Street, Wembley Road, and the two crossings at Henderson Road. The Halidon Road portion of the project was funded in FY 2007-08.

**Project Justification (Including Relationship to City Strategic Plan Goals/Objectives):**

Presently, flooding occurs at the confluence of the main stream and Shelburne Tributary, Craigwood Court, Seabrook Court, and Wembley Drive. Erosion occurs near Fontaine Road, Craigwood Court, Stonehaven Drive on the North Stonehaven Tributary, Shelburne Road, and Carolina Avenue.

**Method for Estimating Cost:**

Engineering estimate adjusted for inflation.

**Project Status (As of January 1, 2009):**

Design is complete for the Halidon section.

PROJECT ITEMS	FUNDING TO-DATE	FY 09/10 COST	FY 10/11 COST	FY 11/12 COST	FY 12/13 COST	FY 13/14 COST	TOTAL PROJECT COST
Planning/Design	\$0	\$170,000	\$0	\$0	\$0	\$0	\$170,000
Site Acquisition Costs	\$0	\$0	\$25,000	\$0	\$0	\$0	\$25,000
Improvements	\$1,169,497	\$0	\$5,414,068	\$0	\$0	\$0	\$6,583,565
Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Management	\$0	\$0	\$320,932	\$0	\$0	\$0	\$320,932
<b>TOTAL PROJECT COST</b>	<b>\$1,169,497</b>	<b>\$170,000</b>	<b>\$5,760,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$7,099,497</b>
PROJECT FUNDING SOURCES (LIST)	FUNDING TO-DATE	FY 09/10 EST. FUNDS	FY 10/11 EST. FUNDS	FY 11/12 EST. FUNDS	FY 12/13 EST. FUNDS	FY 13/14 EST. FUNDS	TOTAL PROJECT FUNDING
Stormwater Fund	\$1,108,497	\$170,000	\$1,500,000	\$0	\$0	\$0	\$2,778,497
Sanitary Sewer Fund	\$0	\$0	\$60,000	\$0	\$0	\$0	\$60,000
Stormwater Revenue Bond - 2011	\$0	\$0	\$4,200,000	\$0	\$0	\$0	\$4,200,000
Stormwater Revenue Bond - 2001	\$61,000	\$0	\$0	\$0	\$0	\$0	\$61,000
<b>TOTAL PROJECT FUNDING</b>	<b>\$1,169,497</b>	<b>\$170,000</b>	<b>\$5,760,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$7,099,497</b>
OPERATIONAL COSTS							
Operating Impact		\$0	\$0	\$0	\$0	\$0	\$0
Cumulative Operating Impact		\$0	\$0	\$0	\$0	\$0	\$0
FTEs Added		0.00	0.00	0.00	0.00	0.00	0.00
Cumulative FTEs Added		0.00	0.00	0.00	0.00	0.00	0.00

## PINEHURST AND WINDSOR CROSSINGS

Department:	<u>PUBLIC WORKS</u>	Ranking:	<u>GROUP C</u>
Status of Project:	<u>PLANNED/PROGRAMMED</u>	Start/Finish Dates:	<u>JULY 2005</u>   <u>JUN 2012</u>
Strategic Goal:	<u>2,5</u>	Project Number:	<u>SW3401</u>

### Project Description:

This project will replace undersized culvert crossings at Pinehurst Drive and Windsor Drive. Due to upstream development, the existing culvert size became insufficient to handle the increasing stormwater flow.

To mitigate this, the project will install a new arch 10' x 5.5' x 80' culvert at Pinehurst Drive and a new arch 12' x 5.5' x 80' at Windsor Drive.

### Project Justification (Including Relationship to City Strategic Plan Goals/Objectives):

This project will reduce flooding in the area, prevent road overtopping, and improve the creek bank's stability. The Richland Creek tributary which crosses under Pinehurst Drive and Windsor Drive carries flow from approximately 350 acres. The existing culverts have minimal capacity to carry heavy storm flows in the creek and are prone to blockage.

The proposed upgrades will significantly improve the hydraulic capacity at the crossing, reduce regular maintenance, and benefit private property owners directly upstream from a significant reduction in the backwater flood profile.

### Method for Estimating Cost:

Estimates based on projects of similar size and scope.

### Project Status (As of January 1, 2009):

Funding is scheduled to begin in FY 2010-11.

PROJECT ITEMS	FUNDING TO-DATE	FY 09/10 COST	FY 10/11 COST	FY 11/12 COST	FY 12/13 COST	FY 13/14 COST	TOTAL PROJECT COST
Planning/Design	\$0	\$0	\$40,000	\$0	\$0	\$0	\$40,000
Site Acquisition Costs	\$0	\$0	\$0	\$30,000	\$0	\$0	\$30,000
Improvements	\$0	\$0	\$0	\$1,200,000	\$0	\$0	\$1,200,000
Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Management	\$0	\$0	\$0	\$60,000	\$0	\$0	\$60,000
<b>TOTAL PROJECT COST</b>	<b>\$0</b>	<b>\$0</b>	<b>\$40,000</b>	<b>\$1,290,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,330,000</b>
PROJECT FUNDING SOURCES (LIST)	FUNDING TO-DATE	FY 09/10 EST. FUNDS	FY 10/11 EST. FUNDS	FY 11/12 EST. FUNDS	FY 12/13 EST. FUNDS	FY 13/14 EST. FUNDS	TOTAL PROJECT FUNDING
Stormwater Fund	\$0	\$0	\$40,000	\$1,290,000	\$0	\$0	\$1,330,000
<b>TOTAL PROJECT FUNDING</b>	<b>\$0</b>	<b>\$0</b>	<b>\$40,000</b>	<b>\$1,290,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,330,000</b>
OPERATIONAL COSTS							
Operating Impact		\$0	\$0	\$0	\$0	\$0	\$0
Cumulative Operating Impact		\$0	\$0	\$0	\$0	\$0	\$0
FTEs Added		0.00	0.00	0.00	0.00	0.00	0.00
Cumulative FTEs Added		0.00	0.00	0.00	0.00	0.00	0.00

## WESTVIEW AVENUE

Department:	<u>PUBLIC WORKS</u>	Ranking:	<u>GROUP B</u>
Status of Project:	<u>REVISION</u>	Start/Finish Dates:	<u>JULY 2002</u>   <u>JUN 2010</u>
Strategic Goal:	<u>2, 5</u>	Project Number:	<u>SW3394</u>

**Project Description:**

This project will replace an inadequate crossing at Westview Avenue by installing a new 15' x 5.5' x 80' arch culvert.

**Project Justification (Including Relationship to City Strategic Plan Goals/Objectives):**

The existing culvert under Westview Avenue is inadequate to handle the stormwater runoff during heavy storms. Residential properties along Westview experience flooding because water backs up at the crossing.

**Method for Estimating Cost:**

Consultant estimate adjusted for inflation.

**Project Status (As of January 1, 2009):**

Design must be updated.

PROJECT ITEMS	FUNDING TO-DATE	FY 09/10 COST	FY 10/11 COST	FY 11/12 COST	FY 12/13 COST	FY 13/14 COST	TOTAL PROJECT COST
Planning/Design	\$3,200	\$0	\$0	\$0	\$0	\$0	\$3,200
Site Acquisition Costs	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Improvements	\$374,500	\$216,571	\$0	\$0	\$0	\$0	\$591,071
Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Management	\$18,725	\$10,829	\$0	\$0	\$0	\$0	\$29,554
<b>TOTAL PROJECT COST</b>	<b>\$396,425</b>	<b>\$227,400</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$623,825</b>
PROJECT FUNDING SOURCES (LIST)	FUNDING TO-DATE	FY 09/10 EST. FUNDS	FY 10/11 EST. FUNDS	FY 11/12 EST. FUNDS	FY 12/13 EST. FUNDS	FY 13/14 EST. FUNDS	TOTAL PROJECT FUNDING
Stormwater Fund	\$393,280	\$227,400	\$0	\$0	\$0	\$0	\$620,680
Stormwater Revenue Bond - 2001	\$3,145	\$0	\$0	\$0	\$0	\$0	\$3,145
<b>TOTAL PROJECT FUNDING</b>	<b>\$396,425</b>	<b>\$227,400</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$623,825</b>
OPERATIONAL COSTS							
Operating Impact		\$0	\$0	\$0	\$0	\$0	\$0
Cumulative Operating Impact		\$0	\$0	\$0	\$0	\$0	\$0
FTEs Added		0.00	0.00	0.00	0.00	0.00	0.00
Cumulative FTEs Added		0.00	0.00	0.00	0.00	0.00	0.00



## PETTIGRU STREET IMPROVEMENTS

Department:	<u>PUBLIC WORKS</u>	Ranking:	<u>GROUP B</u>
Status of Project:	<u>PLANNED/PROGRAMMED</u>	Start/Finish Dates:	<u>JULY 2011</u>   <u>JUN 2012</u>
Strategic Goal:	<u>2, 5</u>	Project Number:	<u>TBD</u>

### Project Description:

This project upgrades stormwater infrastructure on Pettigru Street. This project involves the addition of approximately 850 feet of new stormwater pipe and associated inlet structures. Also included is the replacement of approximately 300 feet of sanitary sewer main and one manhole. Curb, gutter, and pavement are to be upgraded in the affected area and coordinate with SCDOT activities at the end of Pettigru to improve traffic and parking. Additionally, the eroded bank along Richland Creek needs to be stabilized.

### Project Justification (Including Relationship to City Strategic Plan Goals/Objectives):

This project is located in the Historic Pettigru District that abuts Cleveland Park and Richland Creek. The Pettigru District has been developed into a light business district, and the associated business parking area has caused a concentration of stormwater runoff that channels into the project area overrunning the existing infrastructure. Additionally, stormwater flow from this area into Cleveland Park and Richland Creek is causing significant erosion problems. In order to affect a permanent solution to the above issues, the stormwater runoff needs to be captured and diverted to existing storm water infrastructure at the end of Pettigru Street and minimize runoff through the Upstate Woodland Garden and Cleveland Park.

### Method for Estimating Cost:

Informal engineering estimate adjusted for inflation in future years.

### Project Status (As of January 1, 2009):

Preliminary designs have been completed that outline the scope of this project.

PROJECT ITEMS	FUNDING TO-DATE	FY 09/10 COST	FY 10/11 COST	FY 11/12 COST	FY 12/13 COST	FY 13/14 COST	TOTAL PROJECT COST
Planning/Design	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Site Acquisition Costs	\$0	\$0	\$0	\$45,000	\$0	\$0	\$45,000
Improvements	\$0	\$0	\$0	\$334,250	\$0	\$0	\$334,250
Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Management	\$0	\$0	\$0	\$16,713	\$0	\$0	\$16,713
<b>TOTAL PROJECT COST</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$395,963</b>	<b>\$0</b>	<b>\$0</b>	<b>\$395,963</b>
PROJECT FUNDING SOURCES (LIST)	FUNDING TO-DATE	FY 09/10 EST. FUNDS	FY 10/11 EST. FUNDS	FY 11/12 EST. FUNDS	FY 12/13 EST. FUNDS	FY 13/14 EST. FUNDS	TOTAL PROJECT FUNDING
Stormwater Fund	\$0	\$0	\$0	\$317,213	\$0	\$0	\$317,213
Sanitary Sewer Fund	\$0	\$0	\$0	\$78,750	\$0	\$0	\$78,750
<b>TOTAL PROJECT FUNDING</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$395,963</b>	<b>\$0</b>	<b>\$0</b>	<b>\$395,963</b>
OPERATIONAL COSTS							
Operating Impact		\$0	\$0	\$0	\$0	\$0	\$0
Cumulative Operating Impact		\$0	\$0	\$0	\$0	\$0	\$0
FTEs Added		0.00	0.00	0.00	0.00	0.00	0.00
Cumulative FTEs Added		0.00	0.00	0.00	0.00	0.00	0.00

